

**REMARKS**

Applicants respectfully request reconsideration of the present application in view of the reasons that follow.

By way of this response, no claims have been amended or canceled, whereby claim 11 has been added. Support for new claim 11 may be found in Figure 1 of the drawings, and in the description of that figure in the specification.

Therefore, claims 1-6 and 11 are pending for consideration on the merits.

In the Office Action, claims 1-6 were rejected under 35 U.S.C. § 102(b) as being anticipated by JP 04094014 to Sukeyuki et al.; and claims 1-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 01134809 to Misao. These rejections are traversed for at least the reasons given below.

Sukeyuki et al. merely discloses structures wherein a silver sheath layer (interposition layer) is formed on a superconducting layer, while a layer of silver in which ceramic particles are dispersed, is formed around the silver sheath layer as a reinforcing layer. In these structures, two distinct kinds of layers are formed with the intention of avoiding contact of the ceramic particles in the reinforcing layer with the superconducting material.

However, in the present application, ceramic materials (particles) are buried substantially in an outer surface of a metal covering material, whereby such a metal covering material would correspond best to Sukeyuki's interposition layer 2. In Sukeyuki, his ceramic materials appear to be disposed all throughout his interposition layer 2, and not substantially only at an outer surface of his interposition layer 2. Note that Sukeyuki's ceramic superconductor layer 1 also has ceramic materials formed therein, whereby there is no discussion in Sukeyuki as to the relative amounts of ceramic materials in his ceramic superconductor layer 1 and his interposition layer 2. Also, please note that Sukeyuki's superconductor layer 1 is a ceramic

superconductor layer, and there is no disclosure that there is an oxide material in this superconductor layer. Accordingly, Sukeyuki cannot anticipate claim 1 for at least these reasons.

Turning now to Misao, this reference merely discloses (1) a structure wherein string-like ceramic fibers or metallic wires are arranged in a longitudinal direction on a surface of a silver sheath, while an additional silver sheath is formed around them so that the fibers are buried in the longitudinal direction within the sheath, and (2) a sheath tube made of a material fabricated by dispersing inorganic fibers in melted silver (as a result, the fibers spread throughout the entirety of the silver).

In contrast, in the present invention according to claim 1, ceramic materials are buried substantially only in an outer surface of a metallic covering layer. This structure is different from the above-mentioned structure of Misao. In Misao, his carbon fiber layer 4 is disposed outside of his silver layers 3a, 3b, and thus his fibers are not buried in any part of his silver layers 3a, 3b, but rather they are disposed on top of his silver layers 3a, 3b.

Also, pages 4-7 of the specification describe the following advantages when ceramic materials are buried substantially only in an outer surface of a metallic covering material, as compared to a case in which a silver sheath using an ordinary silver sheath wire material does not contain ceramic fibers or the like.

(1) The outer skin of the metallic covering material (silver sheath) becomes thinner (sheath thickness reduction) partly in the buried portion. This enhances the supply of oxygen to the superconducting material during sintering, and thereby improves the purity in the superconducting phase.

(2) The interface between the buried ceramic material and metallic covering material serves as a passage for gas so as to enhance the entering and exiting of gas. This causes an effect similar to that of a sheath thickness reduction.

(3) The burying process is carried out in a direction from the outer surface. This reduces the possibility of the ceramic materials contacting the superconducting powder section, and hence reduces the possibility of compositional deviation.

(4) In addition to the similar effects of the sheath thickness reduction, the ceramic materials bring about an additional effect of an increase in mechanical strength.

Misao merely describes an effect of increasing the mechanical strength due to the dispersion of ceramic fibers. Misao does not recognize a problem brought about by contact of a material other than metal with the superconductor.

Accordingly, neither the structure nor the advantages of the claimed invention is disclosed in the applied prior art.

Therefore, claims 1-6 are patentable over the cited art of record.

New claim 11 has been added, and recites features that are not believed to be disclosed, taught or suggested by the cited art of record. As seen in Figure 1 of the drawings, the ceramic materials 3 are entirely surrounded by the metallic covering material 2.

Applicants believe that the present application is now in condition for allowance, and an early indication of allowance is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit

Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

January 23, 2004  
Date

Phillip J. Articola  
Phillip J. Articola  
Registration No. 38,819

FOLEY & LARDNER

**Customer Number: 22428**

Telephone: (202) 672-5300

Facsimile: (202) 672-5399